

## **ABSTRACT**

**TITLE :** A PROSPECTIVE RANDOMIZED STUDY ON COMPARISON OF INTRAOPERATIVE HEMODYNAMIC STABILITY AND POSTOPERATIVE RECOVERY CHARACTERISTICS OF SEVOFLURANE WITH DESFLURANE IN PATIENTS UNDERGOING GENERAL ANAESTHESIA FOR ELECTIVE THYROID SURGERY

**AIM:** To compare the intraoperative hemodynamic stability and post-operative recovery characteristics of sevoflurane with those of desflurane in nitrous oxide anaesthesia for elective Thyroid surgeries

**INTRODUCTION:** With the availability of volatile anesthetics with low solubility and low blood:gas partition coefficient, viz, Desflurane and Sevoflurane, better hemodynamic stability and faster emergence from anaesthesia is expected compared to traditional inhalational anesthetics. The purpose of this study was to compare sevoflurane and desflurane in terms of intraoperative hemodynamic, postoperative emergence and recovery characteristics in Thyroid surgeries less than 2 hours duration.

**MATERIALS AND METHODS:** A randomized prospective controlled study was undertaken in patients who were posted for Thyroid surgery

under General Anaesthesia. 70 patients, belonging to ASA-PS class I or II were randomly assigned to two groups, group D or group S. After getting informed consent, general anesthesia was given using either 6% Desflurane for group D patients or 2% Sevoflurane for group S patients, in 30% oxygen with 70% nitrous oxide and study conducted. The intraoperative hemodynamic stability and postoperative recovery characteristics were compared between two groups.

**RESULTS:** The intraoperative hemodynamic stability was similar in both group D and S. In each group, vitals (Heart rate and Mean arterial pressure) remained within 20 % from baseline values. However postoperative recovery was quicker in patients belonging to group D compared to group S.

**DISCUSSION:** Both desflurane and sevoflurane maintained hemodynamics and the difference was statistically insignificant. After stopping administration of volatile anesthetics, the time to first spontaneous movement, response to pain, extubation, recall of name, and hand grip were shorter in the desflurane group compared to the sevoflurane group. The difference was statistically significant. The time to achieve a PARS  $\geq 10$  was earlier in the desflurane group and it was statistically significant.

**CONCLUSION:** For intraoperative maintenance of general anaesthesia, both Desflurane and Sevoflurane provided similar hemodynamic changes and within normal limits. However the recovery and emergence from general anaesthesia was more rapid after Desflurane than Sevoflurane anaesthesia.

**KEY WORDS :** Desflurane, Sevoflurane, Hemodynamics, Recovery